An SRS Set-Aside Area, the Boiling Springs Natural Area, is approximately 7 miles (11 kilometers) downstream of the Par Pond Dam. Set-asides are undisturbed natural areas on the SRS that are protected to promote biological diversity and provide control data to evaluate the impacts of development (McFarlane 1988). The Boiling Springs Natural Area is an excellent example of an SRS bottomland hardwood community. Impacts to this area from the 10-cubic-foot (0.28-cubic-meter)-per-second flow and less frequent flooding probably would be minimal because this stretch of Lower Three Runs receives significant inputs from groundwater and runoff and is less dependent on Par Pond discharge. The cypress-tupelo wetlands near the confluence with the Savannah River would probably be unaffected by the 10-cubic-foot-per-second release from Par Pond because they are more than 17 miles (27 kilometers) from the reservoir and are much more strongly influenced by Savannah River flows and flooding.

4.2.5.2.2 Shutdown and Deactivate

Terrestrial, wetland, and aquatic impacts under this alternative would be identical to those described for the No-Action Alternative.

4.2.5.2.3 Shutdown and Maintain

Terrestrial, wetland, and aquatic impacts under this alternative would be identical to those described for the No-Action Alternative.

4.2.6 LAND USE

4.2.6.1 Affected Environment

Fourmile Branch, Pen Branch/Indian Grave Branch, Steel Creek, and Lower Three Runs flow through the SRS in a generally southerly direction and empty into the Savannah River. The streams are narrow at their headwaters, broadening into wide swampy deltas where they empty into the Savannah River. Section 4.2 provides a more detailed description of the flora and fauna along their paths.

DOE monitors the waters of these streams regularly for chemical, metal, physical, and biological properties and radioactive effluents; the monitoring frequency varies with the location and sample type. Sampling stations are upstream and downstream, including offsite portions of the streams. Hunting and fishing along onsite streams are prohibited; the number and frequency of people participating in offsite fishing and hunting are unknown.

As described in Section 4.1.6.1, DOE has a system in place to assist in making a decision about the future of SRS land and facilities. That section also contains information on the Future Use Project Team and its recommendations for SRS future use, the land and surroundings on the Site, and the current status of the National Environmental Research Park.

DOE has not identified any future mission or use, other than research and monitoring, for the SRS streams (Hill 1996).

4.2.6.2 Land Use Impacts

4.2.6.2.1 No Action

Under the No-Action Alternative, current uses of the streams would not change; their status would be the same as that described in Section 4.2.6.1. DOE would make decisions on future uses in accordance with Future Use Project recommendations and other avenues.

4.2.6.2.2 Shut Down and Deactivate

Activities associated with this alternative would not affect current or future uses of the streams. In relation to water quantity and quality, this alternative should not affect offsite downstream users of the streams; and DOE would maintain flow through natural recharge at 10 cubic feet (0.28 cubic meter) per second.

4.2.6.2.3 Shut Down and Maintain

As described above, activities associated with this alternative would not affect current or fu-

ture uses of the streams. DOE would maintain the stream water quantity and quality. Section 3.3 discusses reasons for restarting the River Water System.

4.2.7 AESTHETICS

4.2.7.1 Affected Environment

Most of the streams on the SRS flow through or originate in the Upper Coastal Plain and are tributaries of the Savannah River, which flows through the Lower Coastal Plain. The topographical relief of this area is slight with narrow flat-bottomed valleys and rolling areas between stream valleys. Fourmile Branch, Pen Branch/Indian Grave Branch, Steel Creek, and Lower Three Runs flow through the Site in a generally southerly direction toward the river. The streams are narrow at their headwaters, broadening into wide swampy deltas where they empty into the river. Section 4.2.5 describes the flora and fauna of the streams. Figure 4-30 shows Lower Three Runs from just below the Par Pond Dam on Road B. Figure 4-31 shows Steel Creek from just below the dam on L-Lake. At the time the photograph was taken on July 31, 1996, flow was 30 cubic feet (0.9 cubic meter) per second (USGS 1996).

The only stream users are SRS personnel engaged in chemical, physical, and biological monitoring; frequency of use varies depending on location and sample type. There are sampling stations along the entire length of these streams, including offsite locations. Hunting and fishing along the streams on the Site is strictly prohibited; the number and frequency of offsite users are unknown.

4.2.7.2 Aesthetic Impacts

4.2.7.2.1 No Action

Under the No-Action Alternative, DOE would continue to pump water from the Savannah River through the River Water System to the K- and L-Area 186 basins which would discharge to Indian Grave Branch and L-Lake. The aesthetic settings of the streams would not change and there would be no visual impacts.

4.2.7.2.2 Shut Down and Deactivate

Under this alternative, DOE would shut down the River Water System, thereby supplying no water to Steel Creek, Lower Three Runs, and the other onsite streams. L-Lake would recede and could return to its original stream conditions; both Steel Creek and Lower Three Runs would receive average flows of approximately 10 cubic feet (0.28 cubic meter) per second, which could support biological communities similar to those that existed prior to the creation of the lake. Because the Steel Creek channel would continue to flow through the L-Lake bed and, because the stream would be associated with a receding lake, this alternative would adversely affect stream aesthetics. Figure 4-15 shows Steel Creek (where it broadens into L-Lake) as the lake begins to recede. This alternative would not affect the other streams.

4.2.7.2.3 Shut Down and Maintain

Aesthetic impacts under this alternative would be the same as those noted for the Shut Down and Deactivate Alternative, except DOE could restart the River Water System if necessary. Section 3.3 contains possible reasons for restarting the system.

4.2.8 OCCUPATIONAL AND PUBLIC HEALTH

4.2.8.1 Affected Environment

4.2.8.1.1 Public Health

DOE collects water samples from the Savannah River and SRS streams on a continual basis throughout the year to determine the effects of the Site's effluents on the river water. In addition, SRS stream sampling locations monitor below the process areas to detect and quantify radioactivity levels in liquid effluents being TE transported to the river. Table 4-43 lists radio-